MUTUALISM BETWEEN *TRIGONA COMPRESSA* LATR. AND *CREMATOGASTER STOLLI* FOREL (HYMENTOPERA: APIDAE)

NOEL KEMPF MERCADO
SANTA CRUZ, BOLIVIA

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ABSTRACT

Every colony of the stingless bee, *T. compressa,* found by the author had surrounding it a colony of the ant, *C. stolli.* When the bee colony is broken into to obtain the honey, these carnivorous ants swarm out to attack the invader. However, the ants do not feed on any of the spilt honey nor do they attack the bees. The original arrangement is restored after a period of reorganization.

Schwartz (1948) refers to a colony of *Solenopsis geminata* (Fab.) living as a neighbor to a hive of *Trigona (Scaptotrigona) bipunctata.* The colonies were only neighbors, that is, there was complete separation between them. Nogueira-Neto (1953) cites a similar case, where two colonies, one of a bee and another of an ant were neighbors, the bee colony receiving considerable protection from the ants. The present note refers to observations in several colonies of the stingless bee *Trigona compressa* (Latr.) commonly known as "sombra de sucha", and the ant *Crematogaster stolli* (Forel).

In spite of being insectivorous these ants live in harmony with the bees. Bees of *Trigona compressa* are gentle and hard workers. Usually their nests contain a little over 1 liter of an agreeable, acid and odoriferous honey. A colony of these bees contains about 10,000 to 15,000 workers. Completely surrounding a natural hive of *T. compressa* one finds a nest of *Crematogaster stolli* ants. The anthill has a population twice or thrice that of the bees. Both bee and ant colonies have a single entrance divided by a fragile partition of wax and resins. The entrance for the bees is 4 cm, more conspicuous and 3 cm of diameter. The ants penetrate to the inferior part of the entrance and go down through a net of tunnels, in the tree trunk until penetrating the humiferous crest next to the tree base.

The most interesting fact is that every colony of *Trigona*

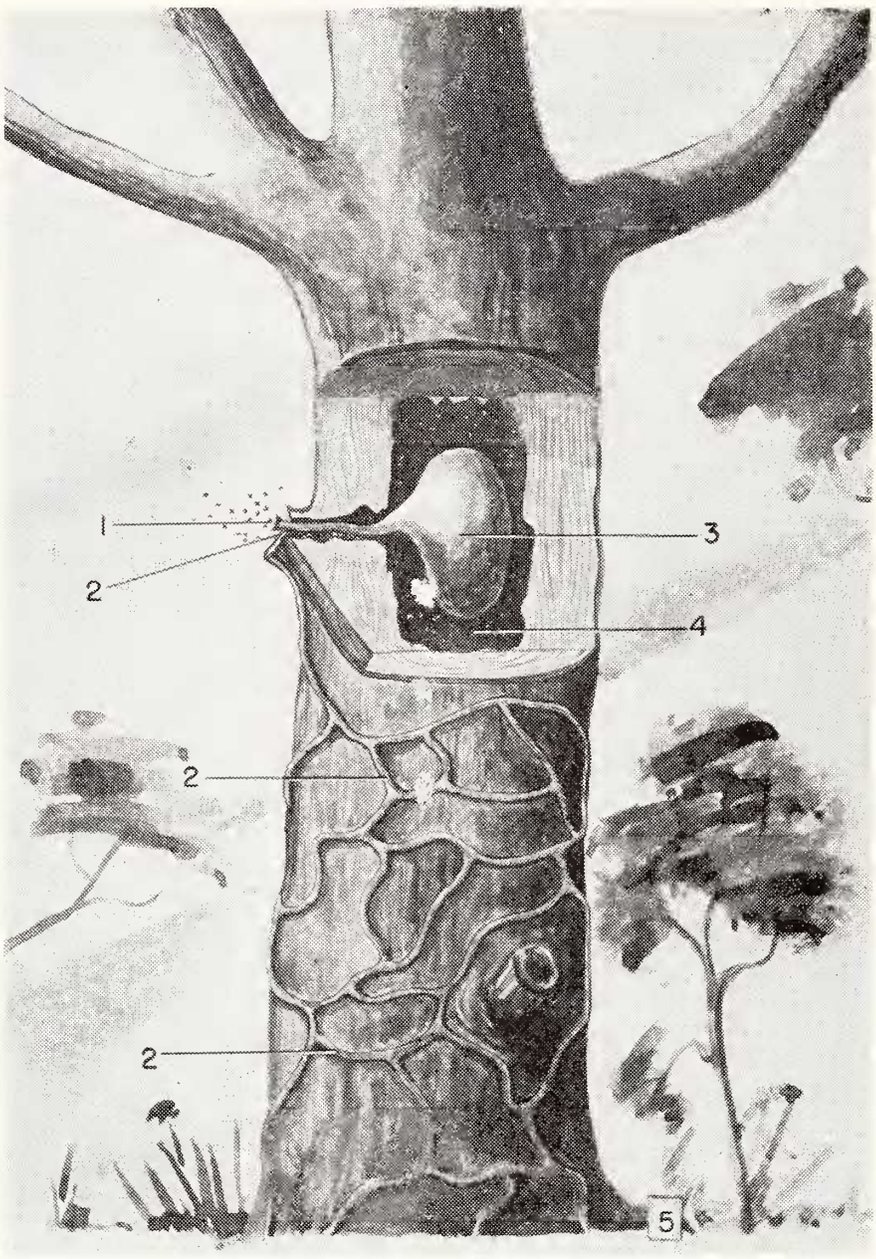

Fig. 1.—Scheme of nest of *Trigona compressa* and *Crematogaster stolli:*
1. Entrance to bee nest;
2. Tunnels from ant-hill leading to ground;
3. Bee colony;
4. Ant colony;
5. Humiferous soil.

compressa found by myself so far was associated with a colony of *Crematogaster stolli.*

When someone wants to collect the honey of these bees, at the first impact of the axe the ants become cross and practically cover the trunk with an ant sheet, furiously biting the invader. When the natural hive is opened, the ants never touch the spilled honey, nor the brood, neither the bees. If one allows time for

them to reorganize they will start all over again, in harmonic association.

The advantage that the bee colony obtains from this mutualism is obvious. However, it is not clear if the ants profit from this association. Figure 1 represents both nests in nature.

ACKNOWLEDGMENT

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Literature Cited

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